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| 10/519,488 | 12/30/2004 | Seiji Kato | 1787.1006 | 5664 |

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| EXAMINER | |
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| PHAM, THOMAS K | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/519,488 | KATO, SEIJI | |
| | Examiner | Art Unit | |
| | Thomas K. Pham | 2121 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *05 March 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## Response to Amendment

1. This action is in response to the amendment filed 03/05/2007.

2. New claim 9 has been added.

3. Applicant's arguments, with respect to claim 1-8, have been considered but are moot in view of new ground(s) of rejection based on an IDS document filed 12/30/2004.

### Quotations of U.S. Code Title 35

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. The claims and only the claims form the metes and bounds of the invention. "Office personnel are to give claims their broadest reasonable interpretation in light of the supporting disclosure. In re Morris, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir 1997). Limitations appearing in the specification but not recited in the claim are not read into the claim. In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ541, 550-551 (CCPA 1969)" (MPEP p2100-8, c 2, I 45-48; p 2100-9, c 1, I 1-4). The Examiner has full latitude to interpret each claim in the broadest reasonable sense. The Examiner will reference prior art using terminology familiar to one of ordinary skill in the art. Such an approach is broad in concept and can be either explicit or implicit in meaning.

## Claim Rejections - 35 USC § 102

6. Claims 1-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent No. 08-137508 ("Kajiwara").

**Regarding claim 1**

Kajiwara teaches the invention including a controlled-object model generation method for generating a model of a controlled object, the method comprising the steps of: acquiring time series data of manipulated variables given to a controlled object and time series data of controlled variables outputted by the controlled object in response thereto (see paragraph [0122]); and generating a model of the controlled object by acquiring time series data of values which is outputted from a transfer function assumed in advance when the acquired time series data of manipulated variables is inputted to the transfer function (see paragraphs [0032], [0036], [0042] and [0045], **a transfer function which modeled a controlled system; then the transfer function is used in the process of obtaining a dynamic model**), and identifying one or more parameters of the transfer function so that an error between the time series data of output values and the acquired time series data of controlled variables corresponding thereto or a value derived from the error becomes optimum (see paragraphs [0040], [0048], and [0060]-[0062], **optimal data**).

**Regarding claim 2**

Kajiwara teaches the invention including a controlled-object model generation program used for realization of a controlled-object model generation method, the program causing a computer to execute the steps of: acquiring time series data of manipulated variables given to a controlled object and time series data of controlled variables outputted by the controlled object in response

thereto (see paragraph [0122]); and generating a model of the controlled object by acquiring time series data of values which is outputted from a transfer function assumed in advance when the acquired time series data of manipulated variables is inputted to the transfer function (see paragraphs [0032], [0036], [0042] and [0045], **a transfer function which modeled a controlled system; then the transfer function is used in the process of obtaining a dynamic model**), and identifying one or more parameters of the transfer function so that an error between the time series data of output values and the acquired time series data of controlled variables corresponding thereto or a value derived from the error becomes optimum (see paragraphs [0040], [0048], and [0060]-[0062], **optimal data**).

**Regarding claim 3**

Kajiwara teaches the invention including a controlled-object model generation method for generating a model of a controlled object, the method comprising the steps of: acquiring time series data of manipulated variables given to a controlled object and time series data of controlled variables outputted by the controlled object in response thereto (see paragraph [0122]); acquiring time series data of values which is outputted from each of transfer functions assumed in advance when the acquired time series data of manipulated variables is inputted to the transfer function (see paragraphs [0032], [0036], [0042] and [0045], **a transfer function which modeled a controlled system; then the transfer function is used in the process of obtaining a dynamic model**), and identifying one or more parameters of the transfer function so that an error between the time series data of output values and the acquired time series data of controlled variables corresponding thereto or a value derived from the error becomes optimum (see paragraphs [0040], [0048], and [0060]-[0062], **optimal data**); and selecting, from the

plurality of transfer functions having the identified parameters, the optimum one as a model of a controlled object based on the error acquired when the identification is completed or the value derived from the error (see paragraphs [0074] and [0075]).

**Regarding claim 4**

Kajiwara teaches the invention including a controlled-object model generation program used for realization of a controlled-object model generation method, the program causing a computer to execute the steps of: acquiring time series data of manipulated variables given to a controlled object and time series data of controlled variables outputted by the controlled object in response thereto (see paragraph [0122]); acquiring time series data of values which is outputted from each of transfer functions assumed in advance when the acquired time series data of manipulated variables is inputted to the transfer function (see paragraphs [0032], [0036], [0042] and [0045], **a transfer function which modeled a controlled system; then the transfer function is used in the process of obtaining a dynamic model**), and identifying one or more parameters of the transfer function so that an error between the time series data of output values and the acquired time series data of controlled variables corresponding thereto or a value derived from the error becomes optimum (see paragraphs [0040], [0048], and [0060]-[0062], **optimal data**); and selecting, from the plurality of transfer functions having the identified parameters, the optimum one as a model of a controlled object based on the error acquired when the identification is completed or the value derived from the error (see paragraphs [0074] and [0075]).

**Regarding claim 5**

Kajiwara teaches the invention including a control parameter adjustment method for adjusting control parameters of a controller, the method comprising the steps of: generating a model of a

controlled object according to a controlled-object model generation process for generating a model of a controlled object (see paragraph [0032]); in order to adjust a control algorithm of the controller, adjusting control parameters of the control algorithm (see paragraph [0033]); and creating and outputting data showing relationship among a desired controlled variable, a manipulated variable and a controlled variable by simulating the state when the controller with the adjusted control parameters controls the controlled object with the use of the controlled-object model and the control algorithm (see paragraphs [0071] and [0072], **controlled variable is outputted as the simulation result**), wherein the predetermined controlled-object model generation process further comprises: acquiring time series data of manipulated variables given to a controlled object and time series data of controlled variables outputted by the controlled object in response thereto (see paragraph [0122]); and generating a model of the controlled object by acquiring time series data of values which is outputted from a transfer function assumed in advance when the acquired time series data of manipulated variables is inputted to the transfer function (see paragraphs [0032], [0036], [0042] and [0045], **a transfer function which modeled a controlled system; then the transfer function is used in the process of obtaining a dynamic model**), and identifying one or more parameters of the transfer function so that an error between the time series data of output values and the acquired time series data of controlled variables corresponding thereto or a value derived from the error becomes optimum (see paragraphs [0040], [0048], and [0060]-[0062], **optimal data**).

**Regarding claim 6**

Kajiwara teaches the invention including a control parameter adjustment program used for realization of a control parameter adjustment method, the program causing a computer to execute

the steps of: acquiring time series data of manipulated variables given to a controlled object and time series data of controlled variables outputted by the controlled object in response thereto (see paragraph [0122]); generating a model of the controlled object by acquiring time series data of values which is outputted from a transfer function assumed in advance when the acquired time series data of manipulated variables is inputted to the transfer function (see paragraphs [0032], [0036], [0042] and [0045], **a transfer function which modeled a controlled system; then the transfer function is used in the process of obtaining a dynamic model**), and identifying one or more parameters of the transfer function so that an error between the time series data of output values and the acquired time series data of controlled variables corresponding thereto or a value derived from the error becomes optimum (see paragraphs [0040], [0048], and [0060]-[0062], **optimal data**); in order to adjust a control algorithm of the controller, adjusting control parameters of the control algorithm (see paragraph [0033]); and creating and outputting data showing relationship among a desired controlled variable, a manipulated variable and a controlled variable by simulating the state when the controller with the adjusted control parameters controls the controlled object with the use of the controlled-object model and the control algorithm (see paragraphs [0071] and [0072], **controlled variable is outputted as the simulation result**).

**Regarding claim 7**

Kajiwara teaches the invention including a control parameter adjustment method for adjusting control parameters of a controller, the method comprising the steps of: generating a model of a controlled object according to a controlled-object model generation process for generating a model of a controlled object (see paragraph [0032]); in order to adjust a control algorithm of the

controller, adjusting control parameters of the control algorithm (see paragraph [0033]); and creating and outputting data showing relationship among a desired controlled variable, a manipulated variable and a controlled variable by simulating the state when the controller with the adjusted control parameters controls the controlled object with the use of the controlled-object model and the control algorithm (see paragraphs [0071] and [0072], **controlled variable is outputted as the simulation result**), wherein the controlled-object model generation process further comprises: acquiring time series data of manipulated variables given to a controlled object and time series data of controlled variables outputted by the controlled object in response thereto (see paragraph [0122]); acquiring time series data of values which is outputted from each of transfer functions assumed in advance when the acquired time series data of manipulated variables is inputted to the transfer function (see paragraphs [0032], [0036], [0042] and [0045], **a transfer function which modeled a controlled system; then the transfer function is used in the process of obtaining a dynamic model**), and identifying one or more parameters of the transfer function so that an error between the time series data of output values and the acquired time series data of controlled variables corresponding thereto or a value derived from the error becomes optimum (see paragraphs [0040], [0048], and [0060]-[0062], **optimal data**); and selecting, from the plurality of transfer functions having the identified parameters, the optimum one as a model of a controlled object based on the error acquired when the identification is completed or the value derived from the error (see paragraphs [0074] and [0075]).

**Regarding claim 8**

Kajiwara teaches the invention including a control parameter adjustment program used for realization of a control parameter adjustment method, the program causing a computer to execute

the steps of: acquiring time series data of manipulated variables given to a controlled object and time series data of controlled variables outputted by the controlled object in response thereto (see paragraph [0122]); acquiring time series data of values which is outputted from each of transfer functions assumed in advance when the acquired time series data of manipulated variables is inputted to the transfer function (see paragraphs [0032], [0036], [0042] and [0045], **a transfer function which modeled a controlled system; then the transfer function is used in the process of obtaining a dynamic model**), and identifying one or more parameters of the transfer function so that an error between the time series data of output values and the acquired time series data of controlled variables corresponding thereto or a value derived from the error becomes optimum (see paragraphs [0040], [0048], and [0060]-[0062], **optimal data**); selecting, from the plurality of transfer functions having the identified parameters, the optimum one as a model of a controlled object based on the error acquired when the identification is completed or the value derived from the error (see paragraphs [0074] and [0075]); in order to adjust a control algorithm of the controller, adjusting control parameters of the control algorithm (see paragraph [0033]); and creating and outputting data showing relationship among a desired controlled variable, a manipulated variable and a controlled variable by simulating the state when the controller with the adjusted control parameters controls the controlled object with the use of the controlled-object model and the control algorithm (see paragraphs [0071] and [0072], **controlled variable is outputted as the simulation result**).

**Regarding claim 9**

Kajiwara teaches the invention including a method for generating a model of a controlled object, comprising generating a controlled-object model (see paragraph [0032]), which receives time

series manipulated variables and outputs time series controlled variables in response thereto (see paragraph [0122]), from a transfer function determined prior to said generating (see paragraphs [0032], [0036], [0042] and [0045], **a transfer function which modeled a controlled system; then the transfer function is used in the process of obtaining a dynamic model**) and optimum parameters derived from the controlled variables and at least one error in an output of the transfer function (see paragraphs [0074] and [0075]).

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner *Thomas Pham*; whose telephone number is (571) 272-3689, Monday - Friday from 7:30 AM - 4:00 PM EST or contact Supervisor *Mr. Anthony Knight* at (571) 272-3687.

Any response to this office action should be mailed to: **Commissioner for Patents, P.O. Box 1450, Alexandria VA 22313-1450.** Responses may also be faxed to the **official fax number (571) 273-8300.**

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

THOMAS PHAM
PRIMARY EXAMINER

May 11, 2007